1: J Biochem (Tokyo). 1996 Jul;120(1):104-10. Related Articles, L

Purification and characterization of a marine bacterial beta-galactoside alpha 2,6-sialyltransferase from Photobacterium damsela JT0160.

Yamamoto T, Nakashizuka M, Kodama H, Kajihara Y, Terada I.

Sea Water Science Research Laboratory, Japan Tobacco Inc., Kanagawa.

A bacterial sialyltransferase, named sialyltransferase 0160, was purified from a marine bacterium that had been isolated from seawater from Sagami Bay, Kanagawa. This strain has been identified as Photobacterium damsela, and named P. damsela JT0160. Sialyltransferase 0160 was purified 688-fold to homogeneity from the crude extract of th cells with a yield of 19% using a combination of anion exchange chromatography, hydroxyapatite chromatography, gel filtration chromatography, and affinity chromatography. The purified enzyme migrated as a single band (61 kDa) on sodium dodecyl sulfate-polyacrylamide gel. This sialyltransferase was found to be a beta-galactoside alpha 2,6-sialyltransferase [EC 2.4.99.1] which catalyzes the incorporation o NeuAc from CMP-NeuAc into the galactose residue of the carbohydrate chain at positio on the basis of an analysis of the enzymatic reaction products with HPLC, 1H-, 13C-NM spectroscopy, and fast atom bombardment mass spectroscopy.

PMID: 8864851 [PubMed - indexed for MEDLINE]

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1: Glycobiology. 1991 Sep;1(4):357-65.

Complete nucleotide and deduced protein sequence of CMP-NeuAc: poly-alpha-2,8 sialosyl sialyltransferase of Escherichia coli K1.

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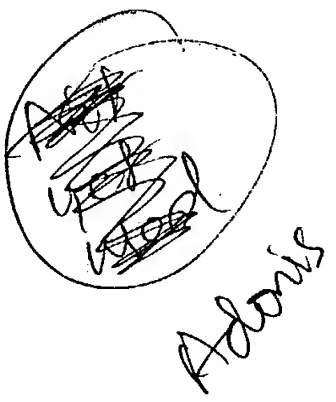
Poly-alpha-2,8 N-acetylneuraminic acid (polySia) is an important virulence factor in infections caused by Escherichia coli K1 and Neisseria meningitidis B. In E. coli K1 a membranous CMP-NeuAc: poly-alpha-2,8 sialosyl sialyltransferase (polysialyltransferas complex catalyses the synthesis of linear polySia chains. The complex also elongates sia oligomers that serve as exogenous acceptors. The gene encoding a polysialyltransferase E. coli has been identified by subcloning and DNA sequence analysis. The subcloned DN fragment codes for a polypeptide with a molecular mass of 47 kDa catalysing the in vitro synthesis of polySia by elongation of exogenous acceptors.

PMID: 1820197 [PubMed - indexed for MEDLINE]



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